

REMARKS

Claims 1, 13, 23 and 27 have been amended. Claims 25-26 have been canceled without prejudice.

The Examiner has rejected applicant's claims 1, 2, 4-6, 13, 23 and 25-27 under 35 U.S.C. § 103(a) as being unpatentable based on the Terada, et al. (US 6,124,888) patent taken with the Kowno, et al. (US 2001/0013897) published patent application. Claim 5 has been rejected also under 35 U.S.C. § 103(a) as being unpatentable based the later two references taken with the Matsumoto (US 6,308,015) patent. With respect to applicant's claims, as amended, these rejections are respectfully traversed.

Applicant's independent claim 1 has been amended to better define applicant's invention. In particular, amended claim 1 recites an image pickup circuit which photoelectrically converts, into pixel signals, a light image formed through a lens; a setting unit which sets at least a first image pickup mode and a second image pickup mode; and a controlling unit which controls to lengthen a focal length of said lens depending on a change from said first image pickup mode to said second image pickup mode, wherein, said first image pickup mode reduces the pixel signals by extracting a predetermined area from an image pickup area of said image pickup circuit; said second image pickup mode obtains the pixel signals from a larger area than said predetermined area by reducing the pixel signals in a different reducing method of said first mode, and said controlling unit changes the focal length of said lens to prevent a photo-taking angle from varying depending on a change from said first image pickup mode to said second image pickup mode. Claims 13 and 23 have been similarly amended.

Similarly, independent claim 27 has been amended to recite an image pickup apparatus, comprising: an image pickup circuit which photoelectrically converts, into pixel signals, a light image formed through a lens; a setting unit which sets at least a first image pickup mode and a second image pickup mode; and a controlling unit which controls to shorten a focal length of said lens depending on a change from said second image pickup mode to said first image pickup mode, wherein, said first image pickup mode reduces the pixel signals by extracting a predetermined area from an image pickup area of said image pickup circuit; said second image pickup mode obtains the pixel signals from a larger area than said predetermined area by reducing the pixel signals in a different reducing method of said first mode, and said controlling unit changes the focal length of said lens to prevent a photo-taking angle from varying depending on a change from said second image pickup mode to said first image pickup mode.

Such constructions are not taught or suggested by the cited art of record. As the Examiner has pointed out, the cited Terada, et al. patent discloses a controller for selecting a signal reading out mode with and without thinning of the read out pixels. In the Terada, et al. patent, the sequence of the colors of the optical color filters arranged in front of the read out pixels is maintained the same in the case of reading out with thinning (the skip mode) and the case of reading out without thinning (the block mode). This makes it possible to share the signal processing circuits and to simplify the circuit configuration. However, as the Examiner has acknowledged, the Terada, et al patent fails to teach or suggest changing the focal length in dependence on changing from one mode to the other.

The Examiner then cites the Kowno, et al. reference and argues that this reference discloses a camera having a control unit “which controls to lengthen a focal length of the lens depending on a change from said first image pickup mode (NORMAL) to a second image

pickup mode (TELEPHOTO). The Examiner then concludes that based on these two references it would have been obvious “to have a controlling unit which controls to lengthen a focal length of said lens depending on a change from said first image pickup mode to said second image pickup mode, in order to photograph landscape or when an object of interest is located at a relatively long distance in the first mode and to photograph a person or close object in the second mode.”

Applicant disagrees with the Examiner’s conclusion. In the Kowno, et al. reference, a camera is provided with a NORMAL image pickup mode and a TELEPHOTO image pickup mode in which a focal length becomes longer and an image of an object becomes larger than in case of the NORMAL mode. A user then selects via a switch which mode the camera is to be operated in depending upon whether the user desires to operate in the shorter focal length (NORMAL) or longer focal length (TELEPHOTO) image pick up mode.

The Kowno, et al. reference, like the Terada, et al. patent, thus fails to teach or suggest changing the focal length of a lens depending on a change from a first image pickup mode to a second image pickup mode or vice versa, wherein the first image pickup mode reduces the pixel signals by extracting a predetermined area from an image pickup area of an image pickup circuit and the second image pickup mode obtains the pixel signals from a larger area than the predetermined area by reducing the pixel signals in a different reducing method of the first mode. As previously stated, in the Kowno, et al. reference, the first mode is a NORMAL mode and the second mode is a TELEPHOTO mode and there is no teaching or suggestion that either mode involves a reduction in pixel signals.

Moreover, neither reference teaches or suggests changing the focal length of a lens to prevent a photo-taking angle from varying depending on a change from said second image

pickup mode to said first image pickup mode or vice versa. In the Kowno, et al. reference, the camera structure is such that the angle of view varies when changing between the NORMAL and TELEPHOTO modes.

Finally, even if the Terada, et al. patent and the Kowno, et al. reference were viewed together, the camera of the Terada, et al. patent might be provided with a NORMAL image pickup mode and a TELEPHOTO image pickup mode as in the Kowno, et al. reference, in addition to the block and skip reading out modes, but the resultant camera would still not operate to change the focal length of its lens depending upon a change between the latter two modes (block and skip), nor would it do so to prevent a photo-taking angle from varying.

Applicant's amended claims, all of which recite such features, thus patentably distinguish over the Terada, et al. patent and the Kowno, et al. reference, taken alone or in combination.

The Matsumoto patent as previously acknowledged by the Examiner teaches that the depth of field is varied for the different photographic modes based on changing the diaphragm aperture, i.e., the shutter numerical aperture is set in order to decrease a diaphragm aperture when the photographic mode is a landscape mode, and the shutter numerical aperture is set in order to increase the diaphragm aperture when the photographic mode is a portrait mode. Accordingly, the Matsumoto patent adds nothing to the Terada, et al. patent and the Kowno, et al. reference that would result in applicant's claimed invention. Applicant's amended claims thus patentably distinguish over all these references.

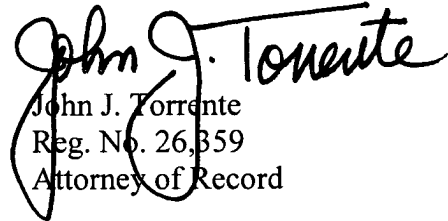
In view of the above, it is submitted that applicant's claims, as amended, patentably distinguish over the cited art of record. Accordingly, reconsideration of the claims is

respectfully requested.

Dated: May 9, 2006

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